Patent Appl. No. 09/890,438

Reply to USPTO Correspondence of January 29, 2004

Paper dated July 29, 2004

Atty. Docket No. 1214-011212

REMARKS

Claims 16-23 are currently pending in this application. Claims 1-15 were canceled by Preliminary Amendment. This Amendment cancels claims 17, 18 and 20, amends the specification and claims 16 and 21, and adds new claims 24-26. Support for the amendments to the specification, claims and new claims can be found in the specification and claims as originally filed. No new matter has been added.

The specification has been amended to correct grammatical errors.

The Examiner has objected to claims 17, 18 and 21 under 37 C.F.R. § 1.75(c) as being in improper dependent form for failing to further limit the subject matter of a previous claim. In response, claims 17 and 18 have been canceled and, therefore, the objection of the claims is moot. Regarding the rejection of claim 21, the Examiner asserts that the "diferrocenium derivative cation" is broader than the claimed structures of general formula (I) recited in claim 16, because such derivative does not possess the claimed R¹ limitation. In response, claim 16 has been amended wherein the R¹ in the general formula (I) includes the limitations found in canceled claim 20. Therefore, the "diferrocenium derivative cation" is now representative of the substance having the general formula (I), wherein m is 2. Support for the diferrocenium derivative cation is found, for example, in Example 13 on page 25 of the present specification. Furthermore, the Examiner asserts that the general formula (I) in claim 16 does not appear to permit the presence of the various chloride containing cations as recited in claim 21. In response, claim 21 has been amended to delete the various chloride containing cations. In view of the above, withdrawal of the objection of claim 21 is respectfully requested.

The Examiner rejected claims 16-23 under 35 U.S.C. § 112, second paragraph, for indefiniteness. Claims 17, 18 and 20 have been canceled and, therefore, the rejection of the claims is moot. Regarding claim 16, the Examiner asserts that it is unclear whether the claimed substance is able to obtain overall neutrality. In response, the general formula (I) in claim 16 has been amended to change the lower case "I" (which looks like the numeral "1") to an upper case "L". Because general formula (I) is composed of one L-valent cation moiety and L-monovalent anion moieties, it is apparent that the substance is overall neutral in charge.

Regarding claim 21, the Examiner asserts that formula (I) in claim 16 does not appear to permit the presence of the various chloride containing cations as recited in claim

Patent Appl. No. 09/890,438 Reply to USPTO Correspondence of January 29, 2004 Paper dated July 29, 2004 Atty. Docket No. 1214-011212

21. As previously stated, claim 21 has been amended to delete the various chloride containing cations. Furthermore, claim 21 has been amended to include the following cations: 1) 1, 2, 4, 1', 2', 4'-hexamethyl ferrocenium cation; 2) tetramethyl ferrocenium cation; and 3) hexamethyl ferrocenium cation. Support for the additional cations can be found, for example, on pages 9 and 10 of the present specification. In view of the foregoing, reconsideration and withdrawal of the rejection of claims 16, 19 and 21-23 are respectfully requested.

The Examiner has rejected claims 16-23 under 35 U.S.C. § 102(e) for anticipation by the U.S. Patent No. 6,100,352 to Shouzaki et al. (hereinafter "the Shouzaki patent"). The Examiner asserts that the Shouzaki teaches a complex comprised of ferrocenium tetraphenylborate as well as other ferrocenium and borate based complexes, for the purpose of polymerization catalysis (Col. 14, lines 27-50). For the reasons discussed below, Applicant respectfully disagrees with the Examiner's assertion.

The present invention is directed to a polymerization initiator for cationically polymerizable organic substances that comprises a crystalline ion-association substance having the general formula (I) as recited in amended claim 16. The polymerization initiator of the claimed invention has unique properties which give the polymerization initiator the ability to initiate both photopolymerization and thermal polymerization when used in cationically polymerizable organic substances, such as epoxy compounds and organosiloxane compounds.

The Shouzaki patent is directed to a styrene type monomer that is polymerized by the use of a catalyst. The catalyst consists of (a) a transitional metal compound, (b1) a compound capable of forming an ionic compound by reacting with the transition metal compound, and if necessary (d) an alkylating agent. The catalyst can also consist of a) a transitional metal compound, (b1) a compound capable of forming an ionic compound by reacting with the transition metal compound, (b2) a specific oxygen-containing compound, and if necessary (d) an alkylating agent. See Abstract. The compound (b1) capable of forming an ionic complex by reacting with the transition metal, includes a coordination complex compound consisting of an anion or cation having a plurality of groups bound to a metal and having the general formula (XVI) or (XVII). See column 13, lines 23-34 and column 14, lines 27-50. The catalyst of the Shouzaki patent consist of components (a), (b1) and (d), wherein the ferrocenium and borate based complex is only one component of the

Patent Appl. No. 09/890,438 Reply to USPTO Correspondence of January 29, 2004 Paper dated July 29, 2004 Atty. Docket No. 1214-011212

catalyst (i.e., the (b1) compound). Therefore, the Shouzaki patent does not teach or suggest a catalyst for polymerization of cationically polymerizable organic substance having the general formula (I) as recited in claim 16. In view of the above, claim 16 is believed to be patentable over the Shouzaki patent. Accordingly, withdrawal of the rejection and allowance of independent claim 16 and dependent claims 19 and 21-23 are respectfully requested.

New dependent claims 24-26 have been added. Claim 24 depends from claim 16 and includes the use of the polymerization initiator in a polymerization of cationically polymerizable organic substance. New claim 25 depends from claim 24 and includes the limitations found in canceled claim 17. New claim 26 depends from claim 25 and includes the limitations found in canceled claim 18. New claims 24-26 are in proper dependent form and limit further the subject matter of the previous claim.

In view of the foregoing amendments and remarks, withdrawal of the rejection and allowance of claims 16, 19 and 21-23 and new claims 24-26 are respectfully requested.

Respectfully submitted,

WEBB ZIESENHEIM LOGSDON ORKIN & HANSON, P.C.

By Daviell & Williams

Darrell E. Williams
Registration No. 45,222
Attorney for Applicant
700 Koppers Building
436 Seventh Avenue
Pittsburgh PA 15219-181

Pittsburgh, PA 15219-1818 Telephone: 412-471-8815 Facsimile: 412-471-4094

E-mail: webblaw@webblaw.com